CUBIT Capability Proposal

Technical Area Geometry, Meshing, Infrastructure, GUI, Graphics, etc..	**Technical Lead** Cubit Developer in charge of technical area
Infrastructure / Testing	Darryl / Aaron

MRD Description
Describe the capability in terms of how a user would see it.

None – not user visible

SRS Description
What needs to be done by Cubit developers to implement this capability? Break the tasks into steps if applicable. (Steps should be on the order of 2 man-weeks or more)

> Create a framework that enables testing to examine CUBIT data structures directly, in code. This would require that we build a separate executable solely for the purpose of testing.
> 1. Evaluate existing unit testing frameworks (cppunit, etc).
> 2. Design testing framework.
> 3. Figure out logistics of building the test executable, adding tests, checking results, and integrating into our existing test procedures.

Justification
Describe why this is important and what impact it will have if it is implemented. (or not implemented).

> There are many bugs that can't be detected with our current test suite. Other than GUI and documentation bugs, the reason is usually because we can't peek into CUBIT's data structures to verify that things are as they should be. Many libraries use driver applications to test them. CUBIT could do the same thing, where the driver actually has in-code access to CUBIT data structures and can peek at information not otherwise available.
> I would want many people involved in this task, mostly to look over each other's shoulder.

Resources Who will work on this	**Time estimate** How much time will it take in man-weeks	**Targeted Release** 10.2 (August 06), 10.3 (March 2007), 10.4 (August 2007), Future (beyond FY07)
Darryl / Aaron / Anybody	14 weeks	10.3

Submitted By:	**Date:**
Darryl	3/28/06